



National Aeronautics and Space Administration
Office of Equal Opportunity Programs
Minority University Research and Education Division

FY 2002 NASA RESEARCH ANNOUNCEMENT (NRA)

(NRA-02-OEOP-03)

Precollege Achievement of Excellence in Mathematics, Science, Engineering, and Technology (PACE/MSET)

Release Date:	December 28, 2001
Notice of Intent Due:	February 28, 2002
Proposals Due:	April 12, 2002
Selection Announcement:	June 2002

Code EU, NASA Headquarters
Washington, DC 20546-0001

SUMMARY AND SUPPLEMENTAL INFORMATION

The selection official is the Associate Administrator for Equal Opportunity Programs.

NRA-02-OEOP- 03

**Precollege Achievement of Excellence in Mathematics,
Science, Engineering, and Technology (PACE/MSET)**

Important Program Dates

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Inquiries

General questions about this NASA Research Announcement (NRA) must be submitted via e-mail to muredsupport@mail.nasaprs.com. Content-based questions about programs in this NRA may be directed to the NASA Minority University Research and Education Division (MURED) staff by contacting the individuals below:

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The contracting point of contact will be specified in each selection notification letter.

Solicitation Availability: <http://research.hq.nasa.gov>

Click on Office of Equal Opportunity Programs (Code E)

Number of Anticipated PACE Awards: 10 grants are anticipated.

Proposal Submission

Eligible institutions may submit only one proposal in response to this program announcement. If multiple submissions are received from an eligible institution, the institution's Office of Sponsored Research will be contacted to determine which proposal will be considered for review. Institutions that hold PACE/MSET Awards as of June 2002 are not eligible to submit proposals for PACE/MSET (NRA-02-OEOP-03). The original and 5 copies of the proposal package must be received at NASA Peer Review Services no later than 4:30 p.m. Eastern Standard Time, April 12, 2002. All proposals, including those sent through the U.S. Postal Service by first class, registered or certified mail and proposals submitted via commercial delivery or courier service should be addressed to:

NASA Peer Review Services
Attention: PACE/MSET (NRA-02-OEOP-03)
500 E Street SE, Suite 200
Washington, DC 20024-2760

Availability of Funds

Funds are not currently available for awards under this NRA. The Government's obligation to make award(s) is contingent upon the availability of appropriated funds from which payment can be made and receipt of proposals that NASA determines are acceptable for award under this NRA.

Safety Statement

Safety is the freedom from those conditions that can cause death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment. NASA's safety priority is to protect: (1) the public, (2) astronauts and pilots, (3) the NASA workforce (including employees working under NASA instruments), and (4) high-value equipment and property.

A Message from the Associate Administrator for Equal Opportunity Programs

The NASA Research Announcement for the Precollege Achievement of Excellence in Mathematics, Science, Engineering, and Technology (PACE/MSET) provides Minority Institutions (MI's) an opportunity to develop broad and superior mathematics, science, and technology education programs that outreach to students at the precollege level. The proposal must be a collaborative effort between the MI and the school district or non-profit education organization committed to serving underserved and/or disabled students.

Through the PACE Program, we have been fortunate to have reached thousands of students in grades K-12. We seek innovative programs that will excite students to want to explore the universe, pilot a space ship, design and build a rocket, discover how humans are affected by microgravity, and study the Earth as a planet.

We seek programs that will prepare the student to face the challenges of a rigorous curriculum, help the student to enroll in a college preparatory course of study, and to become interested in scientific and technical careers.

I believe that minority colleges and universities are well situated to prepare our youth for exceptional careers with the National Aeronautics and Space Administration.

We invite your participation in the PACE program.

George E. Reese
Associate Administrator
Office of Equal Opportunity Programs

TABLE OF CONTENTS

Summary and Supplemental Information	I
A Message from the Associate Administrator for Equal Opportunity Programs	III
Table of Contents	IV
I. Introduction	1
II. Technical/Program Description	2
Goals	2
Objectives.....	2
Expected Outcomes	3
Award Size and Duration.....	3
Project Content and Design	3
Supplemental Funding for the Inclusion of individuals with Targeted Disabilities	5
III. General Eligibility Requirements	6
Institutions	6
Principal Investigators	6
IV. Proposal Guidelines and Submission Instructions	7
Notice of Intent	7
User Identifications	7
Proposal Guidelines	8
Budget Guidelines	8
V. Proposal Format, Content, and Submission	9
Formatting and Content.....	9
Proposal Submission.....	11
VI. Proposal Compliance, Evaluation, and Awards Process	12
Proposal Compliance	12
Evaluation Criteria	12
Relevance to NASA.....	12
Intrinsic Merit	12
Tracking and Evaluation Plan.....	13
Management and Partnerships	13
Cost	13
Evaluation Techniques and Award Process.....	14
Notification.....	14

Appendices

Appendix A: Instructions for Responding to NASA Research Announcements (1852.235-72)..	15
Appendix B: SYS-EYFUS Generated Proposal Cover Page	19
Appendix C: Certification of Principal Investigator Eligibility	22
Appendix D: Certifications, Disclosures, and Assurances Pursuant to Lobbying, Debarment & Suspension, Nondiscrimination and Drug-Free Workplace	23
Appendix E: NRA Equipment Request Form.....	25
Appendix F: Self-Identification of Handicap.....	26
Appendix G: Tracking Methodology: Data Fields	28
Appendix H: Glossary of Acronyms and Definitions	29
Appendix I: World Wide Web Addresses.....	30

I. INTRODUCTION

The NASA Office of Equal Opportunity Programs, Minority University Research and Education Division (OEOP MURED) solicits educational proposals from Historically Black Colleges and Universities (HBCU's) and Other Minority Universities (OMU's), including Hispanic Serving Institutions (HSI's) and Tribal Colleges and Universities (TCU's). This NRA is responsive to all Federal Mandates related to HBCU's and OMU's.

The purpose of the PACE/MSET Award is to enhance the capabilities of underserved and/or disabled students in college preparatory courses in mathematics, science, engineering, and technology through outreach projects that are a collaborative effort between the minority university and the school district or nonprofit education organization committed to serving underserved and/or disabled students.

II. TECHNICAL / PROGRAM DESCRIPTION: NRA-02-OEOP-03

PRECOLLEGE ACHIEVEMENT OF EXCELLENCE IN MATHEMATICS, SCIENCE, ENGINEERING, AND TECHNOLOGY (PACE/MSET)

Historically, minorities have been underrepresented in the mathematics, science, engineering, and technology professions. This program is expected to close the education gap in MSET fields at minority universities by encouraging the implementation of innovative projects with collaborative strategies to ultimately increase the pool of talented engineers, scientists, and researchers in the MSET fields. PACE/MSET is designed to include any combination of outreach projects such as Saturday Academies, Summer Science Camps, In-School Math and Science Academies, and After-School Enrichment Programs. PACE/MSET targets public, hard to staff elementary, middle, and high schools, where approximately fifty percent or more of the students receive free lunches.

Goals

The goals of the PACE/MSET program are to:

1. Increase the enrollment of underserved students in MSET college preparatory courses.
2. Strengthen students' MSET skills.
3. Increase student enrollment in college in MSET disciplines.
4. Encourage students to pursue MSET careers in the future.

Objectives

Program objectives to accomplish this goal are as follows:

1. Increase the number of targeted students successfully completing gateway courses, such as algebra, geometry, college preparatory mathematics and science.
2. Communicate and collaborate among the mathematics, science, engineering, technology, and education departments within the university and between the university/non-profit organization and the public schools.
3. Engage students in participatory activities, such as hands-on learning, research, use of advanced technology, peer support groups, and mentoring relationships with professionals and college students.
4. Expand students' perspective by introducing them to the university/college campus environment.
5. Increase students' awareness of MSET in the world, multicultural contributions to MSET fields, and career options through career exploration, counseling, and detailed discussions of higher education options, requirements, financial assistance, and how to complete applications.
6. Inform parents of students' academic progress and involve them in orientation and awareness activities designed to strengthen family support of MSET education. Consider using parents to talk with other parents about these activities.
7. Involve community groups, business, industry, research laboratories, museums, and educational and professional organizations through mentoring, field trips, guest speakers and MSET-related jobs for the students during the transition from high school to college.

Expected Outcomes

Based on the proposed NASA research to be conducted, the expected outcomes are expected:

1. Precollege students at each grade, grades one through eight, shall successfully progress to the next level of mathematics and science.
2. High school students shall successfully progress through a college preparatory mathematics and science curriculum, graduate from high school, and enroll in college.

Award Size and Duration

PACE/MSET awards will consist of an annual grant of up to \$100,000 per year for a maximum of 3 years.

Funding beyond the first year of awards will be based on an annual evaluation of documented progress as reflected in the annual report, which includes the OEOP MURED Uniform Outcomes Report. Funding is also contingent on the availability of funds and the amount of funds reported in the Agency's Financial and Contractual Status (FACS) Report as disbursed at the end of the award's period of performance.

Project Content and Design

Describe in detail the project design, scope, and disciplinary focus. Outline in detail (per year) the breadth and depth of the project including all components and activities, targeted disciplines and levels, resources, curriculum, methodology, NASA materials used, and intervention and follow-up strategies.

The proposal's relevance to NASA and MURED is essential. Partnerships between NASA and MIs provide an enormous opportunity for NASA to contribute to society by increasing the representation of underserved students in education, research, and careers in mathematics, science, engineering and technology. Therefore, all proposals should address how the project will incorporate NASA materials, services, speakers, and curriculum. PIs should also explain how the project aligns with the following MURED goal: to increase the number of students prepared to enter college and successfully pursue and complete degrees in NASA-related fields.

Educators are encouraged to seek information and services available and demonstrate in the proposal how NASA materials and services will be incorporated into their program. Information on NASA educational materials and services, NASA speakers, and field trips to NASA Centers can be found by accessing the following websites:

NASA Precollege Education Officers:

<http://spacelink.nasa.gov/Educational.Services/How.to.Access.Information/prec college.html>

NASA Field Center Educator Resource Centers:

http://spacelink.nasa.gov/Educational.Services/How.to.Access.Information/erc_nasa.html

NASA MURED expects PACE projects to incorporate activities of sufficient breadth and depth to create significant, long-lasting impact on participating students. Comprehensive year-round activities and/or intensive summer programs of satisfactory duration are encouraged, while isolated one-week sessions are not. Projects that only focus on summer bridge programs for graduating high school seniors will not be funded.

The minimum number of students participating in the project per year should be significant and this number should be clearly stated in the proposal. Also state whether the same students are expected to progress to the next PACE component/session. For instance, if your program targets 7th, 8th, and 9th graders, will 7th graders participate as 8th graders and again as 9th graders? Thus, will you only recruit for new 7th graders? Recruitment and retention should be addressed.

The project must be designed to enrich and supplement the elementary and secondary school curriculum and address underserved students in college preparatory mathematics, science, and technology courses in public elementary, middle, and/or high schools with substantial enrollments of these targeted students. Content must reflect the direction of curriculum standards as established in mathematics by the National Council of Teachers of Mathematics and in science by the National Research Council. Spell out the specific course content that will be taught. The project should be linked to emerging national, state, and district frameworks and curriculum guidelines that are consistent with these standards. Activities should be a result of a careful needs analysis and should encompass NASA, school system, and university/non-profit goals.

The design should also provide rigorous academic experiences that integrate NASA resource materials, promote connections among MSET disciplines, provide multicultural contributions to MSET fields, and include hands-on experiences, inquiry learning, problem-solving activities, research, and advanced technology. As appropriate, it should address communication skills development, both oral and written, as they relate to mathematics and science. The design must provide opportunities for career exploration and counseling and include enrichment activities, such as field trips, guest speakers, interaction and/or mentoring with scientists and engineers, peer support groups, math and science fairs and competitions, and mentoring and/or tutoring by college students. The design must involve parents and include activities that strengthen family support of MSET education.

PACE is designed to produce results that are defined by measurable and quantitative student-based outcomes. Describe how the project will address the specific needs of students in the targeted school(s), how these needs were determined, and how the project will increase the number and achievement of targeted students in college preparatory mathematics, science and technology courses. Detailed data collection is required in all projects for monitoring and evaluation. Include a methodologically sound and realistic evaluation plan that focuses on measurable, student-based outcomes. Clearly and concisely state goals, measurable objectives, critical evaluation questions, required tracking data, the personnel needed to perform the evaluation tasks, the processes that will be used to collect and analyze the information and a time line for these activities.

Define baseline performance metrics using specific baseline data or pretest results. Future levels of accomplishment should be measured from this information. Therefore, a well-defined tracking method should be described and/or illustrated (see Appendix G for list of possible data fields). Identify how mid-course corrections will be made based on the outcomes.

The proposal should clearly and concisely describe the management approach that will be used in implementing the project. Identify key personnel and state the percentage of time they will devote to the planning, implementation and evaluation of the project. Include the roles and responsibilities of all personnel, as well as roles and responsibilities of parents, mentors, career counselors, and MSET professionals.

Clearly identify the leadership qualities, experience, and capabilities of the proposed principal investigator. Provide vitae for the principal investigator and co-investigator. Include qualifications and experience in K-12 MSET education of targeted students.

Describe the proposed partnership plan. Define the roles and responsibilities of each partner, provide evidence of the relationship between the university and participating partners, and show strong linkages and collaboration among participating organizations. Include the signatures of participating partners.

The proposed cost must clearly and concisely describe the appropriateness of the budget, including reasonableness of proposed cost, cost elements, and cost sharing. Show the commitment of resources consistent with the three-year budget request.

The cost must not exceed \$100,000 per year. Of this amount, it is expected that PI's will incorporate a travel allowance to allow for participation at MURED-sponsored events. Cost per participant will be a factor in the evaluation of the project.

Additional Note: It is expected that each PACE project will create a website highlighting all aspects of their project, which will be linked to the PACE Program's main site on the MURED Homepage. The development of a PACE website will be a criterion during the review of annual reports for grant renewal.

Supplemental Funding for the Inclusion of Individuals with Targeted Disabilities

NASA is fully committed to implementing all Federal laws, regulations and guidelines related to the development of affirmative employment plans and inclusion of persons with disabilities. Therefore, we strongly encourage the participation of persons with disabilities in PACE/MSET. To facilitate the participation of students with disabilities, NASA MURED will provide up to \$5,000 in supplemental funding, above the \$100,000, for special assistance and/or equipment necessary to enable participation of students with disabilities.

In addition to the budget and budget justification narrative, proposals denoting a request for supplemental funding must include a detailed one-page description of the request and Form 256 (Self-Identification of Handicap), to be completed by the individual(s) for whom the request is being made. (See Appendix F for Form 256 and for the legal definition of disabled.)

III. GENERAL ELIGIBILITY REQUIREMENTS

Institutions

All proposals must originate from U.S. colleges or universities that are designated by the Department of Education as minority institutions, and must identify themselves as one of the following:

- (i) Must be an accredited minority college or university with enrollment of a single underrepresented minority group or the combination of underrepresented minority groups that exceeds 50 percent of the total student enrollment as defined in the Higher Education Act as amended [See 20 USC 1135d and 34 CFR 637.4b]; and/or
- (ii) Must be a Hispanic-Serving Institution (HSI) under Title III of the *Higher Education Act of 1965*, as amended [See 20 USC 1059c; Public Law 102-325, Section 306, July 22, 1992]; and/or
- (iii) Must be a Historically Black College or University under Title III of the *Higher Education Act of 1965*, as amended [See 34 CFR 608.2]; and/or
- (iv) Tribal College and Universities must be cited in Section 532 of the Equity in Educational Land Grant Status Act of 1994; Tribally Controlled College and University Assistance Act of 1978; or the Navajo Community College Assistance Act of 1978, Public Law 95-471.

The Department of Education MI list can be accessed at: <http://www.ed.gov/offices/OCR/minorityinst.html>

Only institutions that meet the above criteria can be the recipient of a NASA PACE/MSET award. Any arrangements and/or agreements to have the administration of the award done by a third party is between the awardee and the third party and does not require NASA's involvement or approval. However, the award will be made to the minority institution.

School Districts and non-profit educational organizations serving underserved students are encouraged to partner with eligible MI's who meet the criteria. The MI will be the grantee.

Institutions that hold PACE/MSET Awards as of May 2002 are not eligible to submit proposals for PACE/MSET (NRA-02-OEOP-03).

Principal Investigators

The principal investigator (PI) must be an employee of the minority institution. A PI can be named in only one proposal in response to this announcement (NRA-02-OEOP-03).

The PI must provide evidence of having experience with precollege programs.

Co-PI's are allowed.

IV. PROPOSAL GUIDELINES AND NOI SUBMISSION INSTRUCTIONS

Notice of Intent

In order to plan for a timely and efficient peer review process, *Notices of Intent* (NOI's) to propose are strongly encouraged by the date given in this NRA. The submission of an NOI is not a commitment to submit a proposal, nor is information contained therein considered binding on the submitter. A proposal may still be submitted even if an NOI was not submitted. Submit NOI's electronically by entering the requested information through the SYS-EYFUS Web site located at <http://proposals.hq.nasa.gov/>.

User Identifications (User ID)

User ID and passwords are required by NASA security policies in order to access the SYS-EYFUS Web site. Prospective PI's can check if they have a SYS-EYFUS User ID and Password by going to <http://proposals.hq.nasa.gov/> and performing the following steps:

1. Click the hyperlink for NEW USER; this will take the user to the personal information Search Page.
2. Enter the user's first and last name. SYS-EYFUS will search for matching record information in the SYS-EYFUS database.
3. If matches are found, select the "correct" record from those displayed and click on CONTINUE.
4. If no exact match is found, select NONE OF THE ABOVE click on CONTINUE. Then complete the NEW USER form. Follow the on-line instructions for updating and/or entering new data. In addition to adding general contact information, input regarding areas of interest and expertise are also required.
5. If no match is found, select ADD RECORD. Follow the on-line instructions for updating and/or entering new data. In addition to adding general contact information, input regarding areas of interest and expertise are also required.
6. A User ID and password will be emailed to you.

With the user ID and password, login to the SYS-EYFUS web site and follow the instructions for NEW NOTICE OF INTENT.

As a minimum, the following information will be requested:

- NRA number, alpha-numeric identifier, (Note: this may be included on the Web site template);
- The Principal Investigator's name, mailing address, phone number, and email address;
- The name(s) of any Co-Investigator(s) and institution(s) known by the NOI due date;
- A descriptive title of the intended proposal; and,
- A brief (200-300 word) description of the project.

Note that this NOI may also be the preliminary version of the proposal *Cover Page/Proposal Summary*. When an NOI is submitted, the Web site allows the user to modify and/or update this information for the final *Cover Page/Proposal Summary*. Edits may be made up until midnight on the deadline date.

Proposal Guidelines

General guidelines for proposal preparation are given in Appendix A, "Instructions for Responding to NASA Research Announcements." However, certain sections listed in Appendix A must be appropriately modified to meet the intent of the respective programs. For convenience, the information that follows augments the descriptions in Appendix A.

1. The Proposal Cover Page must contain the signatures of both the Authorized Institutional Official and the Principal Investigator.
2. Submit five copies, numbered one through five, by the deadline specified. A submitted proposal should be no more than 30 pages in length, using standard-sized paper (8.5x11), one-inch margins (top, bottom, left and right), and 12-point font. Certifications, appendices, forms, and figures are desired but must fit within the 30-page limit. To facilitate the recycling of proposals after review, proposals should be submitted on plain, white paper only. The use of cardboard stock, plastic covers, colored paper, etc., is prohibited.

Budget Guidelines

"Proposed Costs" discussed in Section (h) of Appendix A is supplemented by the following information concerning proposal cost detail.

1. The proposal must contain sufficient cost detail and supporting information to facilitate a speedy evaluation and award. The proposed costing information should be sufficiently detailed to allow the Government to identify cost elements for evaluation purposes. Generally, the Government will evaluate costs in terms of their reasonableness and acceptability. Each category should be explained. Offerors should exercise prudent judgment since the amount of detail necessary varies with the complexity of the proposal.
2. Direct labor costs should be separated by titles or disciplines such as Principal Investigator, clerical support, with percent of time. Estimates should include a basis of estimates such as currently paid rates or outstanding offers to prospective employees. Indirect costs should be explained to the extent that allows the Government to understand the basis of the estimates.
3. With regard to other costs, each significant category should be detailed, explained, and substantiated. For example, proposed equipment purchases should specify the type of equipment, number of units, and unit cost. Requested travel allowances should include the number of trips, duration of each trip, per diem, rental car expenses, etc.
4. Indirect costs are included in the award amounts.

V. PROPOSAL FORMAT, CONTENT, AND SUBMISSION

Formatting and Content

The proposal should be **formatted according to the order listed in the following table and should not exceed 30 pages including certifications, forms, endorsement letters and appendices**. Each proposal should adhere to the table guidelines for the maximum number of pages for that section.

Proposal Content	Page Guideline	Section and Appendix References
<p>1. Proposal Cover Page: The proposal cover page must be signed by an institutional official who is authorized to certify institutional support and sponsorship of the investigation and of the management of the proposal. The electronic proposal submission process located at http://proposals.hq.nasa.gov/ generates this form.</p> <p>The Proposal Cover Page <u>includes</u> the following items:</p> <p>Proposal Abstract (200-300 words): Provide a brief description of the project, objectives, number of students involved, method of approach, and outcomes.</p> <p>Budget Figures: Include figures for all 3 years of the proposed program in the spaces provided. See General Budget Instructions on page 21 (Appendix B)</p> <p>Certifications Regarding Lobbying, Debarment, Suspension and Other Responsibility Matters and Drug-Free Workplace Requirements Form: The authorizing institutional signature on the Proposal Cover Page automatically certifies that the proposing institution has read and is in compliance with these certifications. No additional form is necessary. For your convenience, the full text is provided in Appendix D.</p> <p>Please Note: The length of the proposal cover page may vary depending upon the length of the proposal abstract/summary. <u>However, the total cover-page packet, which includes the abstract and budget figures, will count as only 1 page total.</u></p> <p>For instructions on printing proposal cover page, see page 11.</p>	1	<p>Sample Cover Page Located in Appendix B</p> <p>Sample "Certifications Regarding Lobbying..." Located in Appendix D</p>
2. Table of Contents	1	
3. Certification of Institution and PI Eligibility	1	Appendix C

Proposal Content	Page Guideline	Section and Appendix References
<p>4. Proposed Program: Provide a detailed discussion of the proposed program. Your description should speak directly to the following evaluation criteria:</p> <ul style="list-style-type: none"> ▪ Relevance to NASA (see page 3) ▪ Intrinsic Merit (see pages 3-4) ▪ Tracking and Evaluation Plan (see page 4) ▪ Program Management (see pages 4-5) <p>(Cost will be addressed in a separate section—see #9 below).</p> <p>For a detailed description of what should be included, please see the section entitled “Project Content and Design” (Pages 3-5).</p>	16-18	For further information see pages 3-5.
<p>5. Personnel: Submit PI and Co-I vitae, including relevant publications.</p>	2-4	
<p>6. Proposed Cost: The budget section of the proposal cover page includes a budget breakdown for each year of the proposed work, on which yearly budget figures and total budget figures shall be entered. Student support should be categorized under the “Other Direct Costs—Other” section of the budget.</p> <p>Narrative: In addition to the budget figures on the proposal cover page, a budget narrative by year for each of the 3 years should accompany the proposal. Include explanatory notes for each line item in the budget.</p>	3-4	For Cost Narrative, Consult the “Budget Guidelines” (page 8).
<p>7. Self-Identification of Handicap. If supplemental funds are sought, provide this form along with a one-page justification.</p>	2	Appendix F
<p>8. Proposal Equipment List (if applicable)</p>	1	Appendix E

Proposal Submission

To assist in expediting the evaluation, selection and award processes, the Proposal Cover Page must be submitted electronically (Appendix B). The comprehensive Proposal Cover Page can be accessed via the SYS-EYFUS system at <http://proposals.hq.nasa.gov/>. Follow the steps outlined below:

1. Complete and Submit Cover Page (the system automatically saves/submits your entries as you advance from screen to screen—there is no final “Submit” button after you have entered the data).

To print out the Proposal Cover Page, which is to be signed by the PI and authorizing official, select the “Show/Print” option when you come to the Proposal Options Page. The system will then show you a list of the cover page components. Click “Continue” at the bottom to print the document. The Proposal Cover Page will only count as one page, no matter what its actual length may be.

2. The PI and the University Authorizing Official must sign in the designated areas on the Proposal Cover Page.
3. Attach the original Proposal Cover Page with the original signatures to the original proposal.
4. In addition to the original, provide 5 copies of the complete proposal package.

The original and 5 copies of the proposal package must be received at NASA Peer Review Services no later than **4:30 p.m. Eastern Standard Time, April 12, 2002**. Proposals received after this time are ineligible for consideration. Please contact muredsupport@nasaprs.com if you have any questions.

Proposals sent via commercial delivery or courier service or through the U.S. Postal Service by first class, registered or certified mail should be addressed to the appropriate program contact as follows:

Mailing Address:

NASA Peer Review Services
Attention: PACE/MSET (NRA-02-OEOP-03)
500 E Street, SW, Suite 200
Washington, DC 20024-2760

VI. PROPOSAL COMPLIANCE, EVALUATION, AND AWARDS PROCESS

Proposal Compliance

All proposals must comply with the general requirements of the NRA. Upon receipt, proposals will be reviewed for compliance. Proposals that do not meet the items below will be returned to the proposer without further review.

1. Submission of complete proposals on or before the due date specified in the Summary and Supplemental Information page (Page 2) of this NRA.
2. Submission of a proposal from an eligible minority institution, specified in the General Eligibility Requirements (Section III).
3. Submission of all appropriate forms as required by this NRA.
4. Submission of a budget that is within guidelines specified in this NRA and is for a funding period not exceeding three years in duration.
5. Submission of proposals that are no more than 30 pages in length (proposal cover page packet counts as only one page).

Evaluation Criteria

Proposals will be evaluated based on the following criteria: Relevance to NASA, Intrinsic Merit, Tracking and Evaluation Plan, Management and Partnerships, and Cost. The criteria are listed in descending order of importance. For example, Relevance is more important than Intrinsic Merit. Creativity in the approach and the forethought given to each aspect of the design and procedure will be carefully considered and will play a major role in the review process. A strong emphasis should be placed on innovative projects with cohesive, collaborative strategies with measurable outcomes. By design, aspects of some issues are touched upon in more than one category. Please note that these criteria supercede the evaluation factors listed in Appendix A.

Relevance to NASA:

- Relation to the NASA MURED goal of increasing the number of students prepared to enter college and successfully pursue and complete degrees in NASA-related fields.
- Collaboration with NASA via integration of NASA materials, services, speakers, and curriculum.

Intrinsic Merit:

- Overall project design and technical soundness of approach.
- Potential of proposed project to increase the number and achievement of targeted students in taking more science, mathematics, and technology courses in school.
- Quality of proposed activities and the clarity of service offered to the students that complement the current state and district curriculum frameworks in mathematics, science and technology.
- Number of students served in the project.
- Duration, frequency, and depth of the program.

- Unique aspects of the project's approach.
- Extent of the roles and responsibilities of parents, mentors, career counselors, and MSET professionals.
- Demographic profile of the school system or community being served.

Tracking and Evaluation Plan:

- Student outcome data and the measurability of student progress.
- Feasibility of evaluation plan.
- Comprehensiveness of tracking system and its effectiveness as an evaluation tool.
- Collection and quality of baseline data.
- Intervention strategies and follow-up.

Management and Partnerships:

- Capabilities and qualifications of the PACE PI and other key personnel, such as management experience and past accomplishments related to K-12 education.
- Feasibility of management plan and likeliness of the personnel to bring about the proposed results, as evidenced by the resources, responsibilities, roles, and level of involvement.
- Clarity of organizational structure and the roles and responsibilities of all personnel.
- Criteria and procedures used for student recruitment.
- Comprehensive partnership plan, including definition of roles and responsibilities of each partner.
- Evidence of a strong relationship between partnering organizations; the approach/methods the partners intend to employ to accomplish the project's objectives.
- Extent of support and available resources from NASA, business and industry, research laboratories, community groups, museums, professional engineers, and other educational and career organizations.

Cost:

- Cost does not exceed \$100,000 per year.
- Appropriateness of the budget, including reasonableness of proposed cost, cost elements, and cost sharing.
- Cost per participant.

Evaluation Techniques

Proposals will be evaluated on the basis of merit review. Reviews may include ad hoc mail reviews and panel reviews by recognized members of academia and scientific experts as appropriate. External reviewers will be broadly representative of the various types of eligible organizations.

NASA will assign the following ratings for use by the reviewers in evaluating each of the five criteria:

ADJECTIVE	DEFINITION
Excellent	A comprehensive and thorough proposal of exceptional merit, with numerous strengths and no major weaknesses.
Very Good	A proposal that demonstrates overall competence and is worthy of support. However, the proposal has a few minor weaknesses.
Good	Proposals with a reasonable sound response. There are more strengths than weaknesses.
Fair	Proposals with strengths and weaknesses approximately equal. However, as a whole weaknesses are not offset by strengths.
Poor	Proposals with serious deficiencies and should not be supported. There are numerous weaknesses and few strengths.

Notification

Selection notification will be made in writing to the Institution President and Principal Investigator. The selection official for this PACE solicitation is the NASA Associate Administrator for the Office of Equal Opportunity Programs.

APPENDIX A

INSTRUCTIONS FOR RESPONDING TO NASA RESEARCH ANNOUNCEMENTS (1852.235-72; JAN. 2000)

(a) General.

- (1) Proposals received in response to a NASA Research Announcement (NRA) will be used only for evaluation purposes. NASA does not allow a proposal, the contents of which are not available without restriction from another source, or any unique ideas submitted in response to an NRA to be used as the basis of a solicitation or in negotiation with other organizations, nor is a pre-award synopsis published for individual proposals.
- (2) A solicited proposal that results in a NASA award becomes part of the record of that transaction and may be available to the public on specific request; however, information or material that NASA and the awardee mutually agree to be of a privileged nature will be held in confidence to the extent permitted by law, including the Freedom of Information Act.
- (3) NRAs contain programmatic information and certain requirements, which apply only to proposals prepared in response to that particular announcement. These instructions contain the general proposal preparation information, which applies to responses to all NRAs.
- (4) A contract, grant, cooperative agreement, or other agreement may be used to accomplish an effort funded in response to an NRA. NASA will determine the appropriate instrument. Contracts resulting from NRAs are subject to the Federal Acquisition Regulation and the NASA FAR Supplement. Any resultant grants or cooperative agreements will be awarded and administered in accordance with the NASA Grant and Cooperative Agreement Handbook (NPG 5800.1).
- (5) NASA does not have mandatory forms or formats for responses to NRAs; however, it is requested that proposals conform to the guidelines in these instructions. NASA may accept proposals without discussion; hence, proposals should initially be as complete as possible and be submitted on the proposers' most favorable terms.
- (6) To be considered for award, a submission must, at a minimum, present a specific project within the areas delineated by the NRA; contain sufficient technical and cost information to permit a meaningful evaluation; be signed by an official authorized to legally bind the submitting organization; not merely offer to perform standard services or to just provide computer facilities or services; and not significantly duplicate a more specific current or pending NASA solicitation.

(b) NRA-Specific Items. Several proposal submission items appear in the NRA itself: the unique NRA identifier; when to submit proposals; where to send proposals; number of copies required; and sources for more information. Items included in these instructions may be supplemented by the NRA.

(c) The following information is needed to permit consideration in an objective manner. NRAs will generally specify topics for which additional information or greater detail is desirable. Each proposal copy shall contain all submitted material, including a copy of the transmittal letter if it contains substantive information.

(1) Transmittal Letter or Prefatory Material.

- (i) The legal name and address of the organization and specific division or campus identification if part of a larger organization;
- (ii) A brief, scientifically valid project title intelligible to a scientifically literate reader and suitable for use in the public press;
- (iii) Type of organization: e.g., profit, nonprofit, educational, small business, minority, women-owned, etc.;
- (iv) Name and telephone number of the principal investigator and business personnel who may be contacted during evaluation or negotiation;
- (v) Identification of other organizations that are currently evaluating a proposal for the same efforts;
- (vi) Identification of the NRA, by number and title, to which the proposal is responding;
- (vii) Dollar amount requested, desired starting date, and duration of project;
- (viii) Date of submission; and
- (ix) Signature of a responsible official or authorized representative of the organization, or any other person authorized to legally bind the organization (unless the signature appears on the proposal itself).

(2) Restriction on Use and Disclosure of Proposal Information. Information contained in proposals is used for evaluation purposes only. Offerors or quoters should, in order to maximize protection of trade secrets or other information that is confidential or privileged, place the following notice on the title page of the proposal and specify the information subject to the notice by inserting an appropriate identification in the notice. In any event, information contained in proposals will be protected to the extent permitted by law, but NASA assumes no liability for use and disclosure of information not made subject to the notice.

**Notice
Restriction on Use and Disclosure of Proposal Information**

The information (data) contained in [insert page numbers or other identification] of this proposal constitutes a trade secret and/or information that is commercial or financial and confidential or privileged. It is furnished to the Government in confidence with the understanding that it will not, without permission of the offeror, be used or disclosed other than for evaluation purposes; provided, however, that in the event a contract (or other agreement) is awarded on the basis of this proposal the Government shall have the right to use and disclose this information (data) to the extent provided in the contract (or other agreement). This restriction does not limit the Government's right to use or disclose this information (data) if obtained from another source without restriction.

-
- (3) **Abstract.** Include a concise (200-300 word if not otherwise specified in the NRA) abstract describing the objective and the method of approach.
 - (4) **Project Description.**
 - (i) The main body of the proposal shall be a detailed statement of the work to be undertaken and should include objectives and expected significance; relation to the present state of knowledge; and relation to previous work done on the project and to related work in progress elsewhere. The statement should outline the plan of work, including the broad design of experiments to be undertaken and a description of experimental methods and procedures. The project description should address the evaluation factors in these instructions and any specific factors in the NRA. Any substantial collaboration with individuals not referred to in the budget or use of consultants should be described. Subcontracting significant portions of a research project is discouraged.
 - (ii) When it is expected that the effort will require more than one year, the proposal should cover the complete project to the extent that it can be reasonably anticipated. Principal emphasis should be on the first year of work, and the description should distinguish clearly between the first year's work and work planned for subsequent years.
 - (5) **Management Approach.** For large or complex efforts involving interactions among numerous individuals or other organizations, plans for distribution of responsibilities and arrangements for ensuring a coordinated effort should be described.
 - (6) **Personnel.** The principal investigator is responsible for supervision of the work and participates in the conduct of the research regardless of whether or not compensated under the award. A short biographical sketch of the principal investigator, a list of principal publications and any exceptional qualifications should be included. Omit social security number and other personal items, which do not merit consideration in evaluation of the proposal. Give similar biographical information on other senior professional personnel who will be directly associated with the project. Give the names and titles of any other scientists and technical personnel associated substantially with the project in an advisory capacity. Universities should list the approximate number of students or other assistants, together with information as to their level of academic attainment. Any special industry-university cooperative arrangements should be described.
 - (7) **Facilities and Equipment.**
 - (i) Describe available facilities and major items of equipment especially adapted or suited to the proposed project, and any additional major equipment that will be required. Identify any Government-owned facilities, industrial plant equipment, or special tooling that are proposed for use. Include evidence of its availability and the cognizant Government points of contact.
 - (ii) Before requesting a major item of capital equipment, the proposer should determine if sharing or loan of equipment already within the organization is a feasible alternative. Where such arrangements cannot be made, the proposal should so state. The need for items that typically can be used for research and non-research purposes should be explained.
 - (8) **Proposed Costs (U.S. Proposals Only).**
 - (i) Proposals should contain cost and technical parts in one volume: do not use separate "confidential" salary pages. As applicable, include separate cost estimates for salaries and wages; fringe benefits; equipment; expendable materials and supplies; services; domestic and foreign travel; ADP expenses; publication or page charges; consultants; subcontracts; other miscellaneous identifiable direct costs; and indirect costs. List salaries and wages in appropriate organizational categories (e.g., principal investigator, other scientific and engineering professionals, graduate students, research assistants, and technicians and other non-professional personnel). Estimate all staffing data in terms of staff-months or fractions of full-time.
 - (ii) Explanatory notes should accompany the cost proposal to provide identification and estimated cost of major capital equipment items to be acquired; purpose and estimated number and lengths of trips planned; basis for indirect cost computation (including date of most recent negotiation and cognizant agency); and clarification of other items in the cost proposal that are not self-evident. List estimated expenses as yearly requirements by major work phases.
 - (iii) Allowable costs are governed by FAR Part 31 and the [NASA FAR Supplement Part 1831](#) (and OMB Circulars A-21 for educational institutions and A-122 for nonprofit organizations).
 - (iv) Use of NASA funds--NASA funding may not be used for foreign research efforts at any level, whether as a collaborator or a subcontract. The direct purchase of supplies and/or services, which do not constitute research, from non-U.S. sources by U.S. award recipients is permitted. Additionally, in accordance with the National Space Transportation Policy, use of a non-U.S. manufactured launch vehicle is permitted only on a no-exchange-of-funds basis.
 - (9) **Security.** Proposals should not contain security-classified material. If the research requires access to or may generate security-classified information, the submitter will be required to comply with Government security regulations.
 - (10) **Current Support.** For other current projects being conducted by the principal investigator, provide title of project, sponsoring agency, and ending date.
 - (11) **Special Matters.**
 - (i) Include any required statements of environmental impact of the research, human subject or animal care provisions, conflict of interest, or on such other topics as may be required by the nature of the effort and current statutes, executive orders, or other current Government-wide guidelines.
 - (ii) Proposers should include a brief description of the organization, its facilities, and previous work experience in the field of the proposal. Identify the cognizant Government audit agency, inspection agency, and administrative contracting officer, when applicable.

(d) Renewal Proposals.

- (1) Renewal proposals for existing awards will be considered in the same manner as proposals for new endeavors. A renewal proposal should not repeat all of the information that was in the original proposal. The renewal proposal should refer to its predecessor, update the parts that are no longer current, and indicate what elements of the research are expected to be covered during the period for which support is desired. A description of any significant findings since the most recent progress report should be included. The renewal proposal should treat, in reasonable detail, the plans for the next period, contain a cost estimate, and otherwise adhere to these instructions.
- (2) NASA may renew an effort either through amendment of an existing contract or by a new award.

- (e) Length.** Unless otherwise specified in the NRA, effort should be made to keep proposals as brief as possible, concentrating on substantive material. Few proposals need exceed 15-20 pages. Necessary detailed information, such as reprints, should be included as attachments. A complete set of attachments is necessary for each copy of the proposal. As proposals are not returned, avoid use of "one-of-a-kind" attachments.

(f) Joint Proposals.

- (1) Where multiple organizations are involved, the proposal may be submitted by only one of them. It should clearly describe the role to be played by the other organizations and indicate the legal and managerial arrangements contemplated. In other instances, simultaneous submission of related proposals from each organization might be appropriate, in which case parallel awards would be made.
- (2) Where a project of a cooperative nature with NASA is contemplated, describe the contributions expected from any participating NASA investigator and agency facilities or equipment, which may be required. The proposal must be confined only to that which the proposing organization can commit itself. "Joint" proposals, which specify the internal arrangements NASA will actually make, are not acceptable as a means of establishing an agency commitment.

- (g) Late Proposals.** Proposals or proposal modifications received after the latest date specified for receipt may be considered if a significant reduction in cost to the Government is probable or if there are significant technical advantages, as compared with proposals previously received.

- (h) Withdrawal.** Proposals may be withdrawn by the proposer at any time before award. Offerors are requested to notify NASA if the proposal is funded by another organization or of other changed circumstances, which dictate termination of evaluation.

(i) Evaluation Factors.

- (1) Unless otherwise specified in the NRA, the principal elements (of approximately equal weight) considered in evaluating a proposal are its relevance to NASA's objectives, intrinsic merit, and cost.
- (2) Evaluation of a proposal's relevance to NASA's objectives includes the consideration of the potential contribution of the effort to NASA's mission.
- (3) Evaluation of its intrinsic merit includes the consideration of the following factors of equal importance:
 - (i) Overall scientific or technical merit of the proposal or unique and innovative methods, approaches, or concepts demonstrated by the proposal.
 - (ii) Offeror's capabilities, related experience, facilities, techniques, or unique combinations of these which are integral factors for achieving the proposal objectives.
 - (iii) The qualifications, capabilities, and experience of the proposed principal investigator, team leader, or key personnel critical in achieving the proposal objectives.
 - (iv) Overall standing among similar proposals and/or evaluation against the state-of-the-art.
- (4) Evaluation of the cost of a proposed effort may include the realism and reasonableness of the proposed cost and available funds.

- (j) Evaluation Techniques.** Selection decisions will be made following peer and/or scientific review of the proposals. Several evaluation techniques are regularly used within NASA. In all cases proposals are subject to scientific review by discipline specialists in the area of the proposal. Some proposals are reviewed entirely in-house, others are evaluated by a combination of in-house and selected external reviewers, while yet others are subject to the full external peer review technique (with due regard for conflict-of-interest and protection of proposal information), such as by mail or through assembled panels. The final decisions are made by a NASA selecting official. A proposal that is scientifically and programmatically meritorious, but not selected for award during its initial review may be included in subsequent reviews unless the proposer requests otherwise.

(k) Selection for Award.

- (1) When a proposal is not selected for award, the proposer will be notified. NASA will explain generally why the proposal was not selected. Proposers desiring additional information may contact the selecting official who will arrange a debriefing.
- (2) When a proposal is selected for award, the procurement office in the funding installation will handle negotiation and award. The proposal is used as the basis for negotiation. The contracting officer may request certain business data and may forward a model award instrument and other information pertinent to negotiation.

(l) Additional Guidelines Applicable to Foreign Proposals and Proposals Including Foreign Participation.

- (1) NASA welcomes proposals from outside the U.S. However, foreign entities are generally not eligible for funding from NASA. Therefore, unless otherwise noted in the NRA, proposals from foreign entities should not include a cost plan unless the proposal involves collaboration with a U.S. institution, in which case a cost plan for only the participation of the U.S. entity must be included. Proposals from foreign entities and proposals from U.S. entities that include foreign participation must be endorsed by the respective government agency or funding/sponsoring institution in the country from

- which the foreign entity is proposing. Such endorsement should indicate that the proposal merits careful consideration by NASA, and if the proposal is selected, sufficient funds will be made available to undertake the activity as proposed.
- (2) All foreign proposals must be typewritten in English and comply with all other submission requirements stated in the NRA. All foreign proposals will undergo the same evaluation and selection process as those originating in the U.S. All proposals must be received before the established closing date. Those received after the closing date will be treated in accordance with paragraph (g) of this provision. Sponsoring foreign government agencies or funding institutions may, in exceptional situations, forward a proposal without endorsement if endorsement is not possible before the announced closing date. In such cases, the NASA sponsoring office should be advised when a decision on endorsement can be expected.
 - (3) Successful and unsuccessful foreign entities will be contacted directly by the NASA sponsoring office. Copies of these letters will be sent to the foreign sponsor. Should a foreign proposal or a U.S. proposal with foreign participation be selected, NASA's Office of External Relations will arrange with the foreign sponsor for the proposed participation on a no-exchange-of-funds basis, in which NASA and the non-U.S. sponsoring agency or funding institution will each bear the cost of discharging their respective responsibilities.
 - (4) Depending on the nature and extent of the proposed cooperation, these arrangements may entail:
 - (i) An exchange of letters between NASA and the foreign sponsor; or
 - (ii) A formal Agency-to-Agency Memorandum of Understanding (MOU).
- (m) **Cancellation of NRA.** NASA reserves the right to make no awards under this NRA and to cancel this NRA. NASA assumes no liability for canceling the NRA or for anyone's failure to receive actual notice of cancellation.

APPENDIX B

SAMPLE PROPOSAL COVER PAGE

(Date: _____)

--

Name of Submitting Institution: _____

Congressional District: _____

Certification of Compliance with Applicable Executive Orders and U.S. Code

By signing and submitting the proposal identified in this Cover Sheet / Proposal Summary, the Authorizing Official of the proposing institution, as identified above (or the individual proposer if there is no proposing institution):

- 1) Certifies that the statements made in this proposal are true and complete to the best of his/her knowledge;
- 2) Agrees to accept the obligations to comply with NASA award terms and conditions if an award is made as a result of this proposal; and
- 3) Provides certification to the following that are reproduced in their entirety in this NRA:
 - (ii) Certification Regarding Debarment, Suspension, and Other Responsibility matters;
 - (iii) Certification Regarding Lobbying, and
 - (iv) Certification of Compliance with the NASA Regulations Pursuant to Nondiscrimination in Federally Assisted Programs.

[1] ... PI Information

Name:		Email:	
Organization:		Department	
Telephone:			
Address:		Fax:	
City, State, Zip:		Country:	

Signature and Date: _____

[2] ... Team Member

Authorizing Official:	
Title:	
Institution:	

Signature and Date: _____

[3] ... Proposal Title (Short and/or Full)

Short Title:	
Full Title:	

[4] ... Summary (Proposal Abstract – 200-300 words)

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[5] ... Budget

Type	Year 1	Year 2	Year 3	Total
Direct Labor				
Other Direct Costs - Subcontracts				
- Consultants				
- Equipment				
- Supplies				
- Travel				
- Other				
Indirect Costs				
Other Applicable Costs				
Subtotal – Estimated Costs:				
Less: Proposed Cost Sharing – Cost Sharing:				
Budget Total				

NASA PROCEDURE FOR HANDLING PROPOSALS

This proposal shall be used and disclosed for evaluation purposes only, and a copy of this Government notice shall be applied to any reproduction or abstract thereof. Any authorized restrictive notices that the submitter places on this proposal shall also be strictly complied with. Disclosure of this proposal for any reason outside the Government evaluation purposes shall be made only to the extent authorized by the Government.

GENERAL BUDGET INSTRUCTIONS

1. Direct Labor (salaries, wages, and fringe benefits): Attachments should list number and titles of personnel, amount of time to be devoted to the grant, and rates of pay.
1. Other Direct Costs:
 - (i) Subcontracts: Attachments should describe the work to be subcontracted, estimated amount, recipient (if known), and the reason for subcontracting.
 - (ii) Consultants: Identify consultants to be used, why they are necessary, the time they will spend on the project, and rates of pay.
 - (iii) Equipment: List separately. Explain the need for items costing more than \$5,000. Describe basis for estimated cost. General-purpose equipment is not allowable as a direct cost unless specifically approved by the grant officer. Any equipment purchase requested to be made as a direct charge under this grant must include the equipment description, how it will be used in the conduct of the basic research proposed and why it cannot be purchased with indirect funds.
 - (iv) Supplies: Provide general categories of needed supplies, the method of acquisition, estimated cost.
 - (v) Travel: Describe the purpose of the proposed travel in relation to the grant and provide the basis of estimate, including information on destination and number of travelers where known.
 - (vi) Other: Enter the total of direct costs not covered by 2a through 2e. Attach an itemized list explaining the need for each item and the basis for the estimate. Enter the student stipends (number of students x amount of stipend for each).
3. Indirect Costs: Identify indirect cost rate(s) and base(s) as approved by the cognizant Federal agency, including the effective period of the rate. Provide the name, address, and telephone number of the Federal agency and official having cognizance. If unapproved rates are used, explain why, and include the computational basis for the indirect expense pool and corresponding allocation base for each rate.
4. Other Applicable Costs: Enter total of other applicable costs with an itemized list explaining the need for each item and basis for the estimate.
5. Subtotal-Estimated Costs: Enter the sum of items 1 through 4.
6. Less Proposed Cost Sharing (if any): Enter any amount proposed. If cost sharing is based on specific cost items, identify each item and amount in an attachment.
7. Carryover Funds (if any): Enter the dollar amount of any funds that are expected to be available for carryover from the prior budget period. Identify how the funds will be used if they are not used to reduce the budget. NASA officials will decide whether to use all or part of the anticipated carryover to reduce the budget. Not applicable to 2nd-year and subsequent-year budgets submitted for the award of a multiple year grants.
8. Total Estimated Costs: Enter the total after subtracting items 6 and 7b from item 5.

APPENDIX C

CERTIFICATION OF INSTITUTION AND PRINCIPAL INVESTIGATOR ELIGIBILITY

Completion of this form is required

I. Institution Eligibility Certification

1. Institution Name: _____

2. Proposal Title: _____

3. Check the U.S. Department of Education Minority Institution Designation.

____ Hispanic-Serving Institution

____ Historically Black College or University

____ Tribal College or University

____ Other Minority Institution

II. Principal Investigator Eligibility Certification

1. Last Name: _____ First Name: _____ MI: _____

2. Verification of Employment:

Employed by (institution): _____

School/Department (specify): _____

APPENDIX D

CERTIFICATIONS, DISCLOSURES, AND ASSURANCES PURSUANT TO LOBBYING, DEBARMENT & SUSPENSION, NONDISCRIMINATION AND DRUG-FREE WORKPLACE

A. LOBBYING

As required by Section 1352, Title 30 of the US Code, and implemented at 14 CFR Part 1271, as defined at 14 CFR Subparts 1271.110 and 1260.117, with each submission that initiates Agency consideration of such applicant for award of a Federal contract, grant, or cooperative agreement exceeding \$100,000, the applicant must certify that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit a Standard Form-LLL, Disclosure Form to Report Lobbying, in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

B. GOVERNMENTWIDE DEBARMENT AND SUSPENSION

As required by Executive Order 12549, and implemented at 14 CFR 1260.510, for prospective participants in primary covered transactions, as defined at 14 CFR Subparts 1265.510 and 1260.117

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency;
 - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
 - (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

C. NONDISCRIMINATION IN FEDERALLY ASSISTED PROGRAMS

The institution, corporation, firm, or other organization on whose behalf this assurance is signed, hereinafter called Applicant, HEREBY AGREES THAT it will comply with Title VI of the Civil Rights Act of 1964 (P.L. 88-352), Title IX of the Education Amendments of 1972 (20 U.S.C. 1680 et seq.), Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and the Age Discrimination Act of 1975 (42 U.S.C. 16101 et seq.), and all requirements imposed by or pursuant to the Regulation of the National Aeronautics and Space Administration (14 CFR Part 1250)(hereinafter called NASA) issued pursuant to these laws, to the end that in accordance with these laws and

regulations, no person in the United States shall, on the basis of race, color, national origin, sex, handicapped condition, or age be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Applicant receives Federal financial assistance from NASA; and HEREBY GIVES ASSURANCE THAT it will immediately take any measure necessary to effectuate this agreement. If any real property or structure thereon is provided or improved with the aid of Federal financial assistance extended to the Applicant by NASA, this assurance shall obligate the Applicant, or in the case of any transfer of such property, and transferee, for the period during which the real property or structure is used for a purpose for which the Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits. If any personal property is so provided, this assurance shall obligate the Applicant for the period during which it retains ownership or possession of the property. In all other cases, this assurance shall obligate the Applicant for the period during which the Federal financial assistance is extended to it by NASA. THIS ASSURANCE is given in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property, discounts or other Federal financial assistance extended after the date hereof to the Applicant by NASA, including installment payments after such date on account of applications for Federal financial assistance which were approved before such date. The applicant recognizes and agrees that such Federal financial assistance will be extended in reliance on the representations and agreements made in this assurance, and that the United States shall have the right to seek judicial enforcement of this assurance. This assurance is binding on the Applicant, its successors, transferees, and assignees, and the person or persons whose signatures appear below are authorized to sign on behalf of the Applicant.

APPENDIX E

EQUIPMENT REQUEST FORM

ITEM (Descriptive name, probable brand, and model)	Quantity	Unit Price	Basis	Total Cost	JUSTIFICATION

Total Equipment _____

Non-NASA Contribution _____

Cost to NASA _____

APPENDIX F

SELF-IDENTIFICATION OF HANDICAP (FORM 256)

SELF-IDENTIFICATION OF HANDICAP

(See instructions and Privacy Act information on reverse)

Last Name, First Name, Middle Initial	Birth Date (Mo./Yr.)	Social Security Number	ENTER CODE HERE →
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DEFINITION OF A HANDICAP: A person is handicapped if he or she has a physical or mental impairment which substantially limits one or more major life activities; has a record of such impairment; or is regarded as having such impairment. Those handicaps that

are to be reported are listed below (codes in bold numbers 13 through 94). In the case of multiple impairments, choose the code which describes the impairment that would result in the most substantial limitation.

TO THE EMPLOYEE: Self-identification of handicap status is essential for effective data collection and analysis. The information you provide will be used for statistical purposes only and will not in any way affect you individually. While self-identification is voluntary, your cooperation in providing accurate information is critical.

01 I do not wish to identify my handicap status. (Please read the employee note above and the reverse side of this form before using this code.) (Note: Your personnel officer may use this code if, in his or her judgment, you used an incorrect code.)

05 I do not have a handicap.

06 I have a handicap but it is not listed below.

SPEECH IMPAIRMENTS

13 Severe speech malfunction or inability to speak; hearing is normal (Examples: defects of articulation [unclear language sounds]; stuttering; aphasia [impaired language function]; laryngectomy [removal of the "voice box"])

HEARING IMPAIRMENTS

15 Hard of hearing (Total deafness in one ear or inability to hear ordinary conversation, correctable with a hearing aid)

16 Total deafness in both ears, with understandable speech

17 Total deafness in both ears, and unable to speak clearly

VISION IMPAIRMENTS

22 Ability to read ordinary size print with glasses, but with loss of peripheral (side) vision (Restriction of the visual field to the extent that mobility is affected—"Tunnel vision")

23 Inability to read ordinary size print, not correctable by glasses (Can read oversized print or use assisting devices such as glass or projector modifier)

24 Blind in one eye

25 Blind in both eyes (No usable vision, but may have some light perception)

MISSING EXTREMITIES

27 One hand

28 One arm

29 One foot

32 One leg

33 Both hands or arms

34 Both feet or legs

35 One hand or arm and one foot or leg

36 One hand or arm and both feet or legs

37 Both hands or arms and one foot or leg

38 Both hands or arms and both feet or legs

NONPARALYTIC ORTHOPEDIC IMPAIRMENTS

(Because of chronic pain, stiffness, or weakness in bones or joints, there is some loss of ability to move or use a part or parts of the body.)

44 One or both hands **47** One or both legs

45 One or both feet **48** Hip or pelvis

46 One or both arms **49** Back

57 Any combination of two or more parts of the body

PARTIAL PARALYSIS

(Because of a brain, nerve, or muscle problem, including palsy and cerebral palsy, there is some loss of ability to move or use a part of the body, including legs, arms, and/or trunk.)

61 One hand

62 One arm, any part

63 One leg, any part

64 Both hands

65 Both legs, any part

66 Both arms, any part

67 One side of body, including one arm and one leg

68 Three or more major parts of the body (arms and legs)

COMPLETE PARALYSIS

(Because of a brain, nerve, or muscle problem, including palsy and cerebral palsy, there is a complete loss of ability to move or use a part of the body, including legs, arms, and/or trunk.)

70 One hand

71 Both hands

72 One arm

73 Both arms

74 One leg

75 Both legs

76 Lower half of body, including legs

77 One side of body, including one arm and one leg

78 Three or more major parts of the body (arms and legs)

OTHER IMPAIRMENTS

80 Heart disease with no restriction or limitation of activity (History of heart problems with complete recovery)

81 Heart disease with restriction or limitation of activity

82 Convulsive disorder (e.g., epilepsy)

83 Blood diseases (e.g., sickle cell anemia, leukemia, hemophilia)

84 Diabetes

86 Pulmonary or respiratory disorders (e.g., tuberculosis, emphysema, asthma)

87 Kidney dysfunctioning (e.g., if dialysis [Use of an artificial kidney machine] is required)

88 Cancer—a history of cancer with complete recovery

89 Cancer—undergoing surgical and/or medical treatment

90 Mental retardation (A chronic and lifelong condition involving a limited ability to learn, to be educated, and to be trained for useful productive employment as certified by a State Vocational Rehabilitation agency under section 213.3102(f) of Schedule A)

91 Mental or emotional illness (A history of treatment for mental or emotional problems)

92 Severe distortion of limbs and/or spine (e.g., dwarfism, kyphosis [severe distortion of back])

93 Disfigurement of face, hands, or feet (e.g., distortion of features on skin, such as those caused by burns, gunshot injuries, and birth defects [gross facial birthmarks, club feet, etc.])

94 Learning disability (A disorder in one or more of the processes involved in understanding, perceiving, or using language or concepts [spoken or written]; e.g., dyslexia)

The Rehabilitation Act of 1973 (P.L. 93-112) requires each agency in the Executive branch of the Federal Government to establish definite programs that will facilitate the hiring, placement, and advancement of handicapped individuals. The best means of determining agency progress in this respect is through the production of reports at certain intervals showing such things as the number of handicapped employees hired, promoted, trained, or reassigned over a given time period; the percentage of handicapped employees in the work force and in various grades and occupations; etc. Such reports bring to the attention of agency top management, the Office of Personnel Management (OPM), and the Congress deficiencies within specific agencies or the Federal Government as a whole in the hiring, placement, and advancement of handicapped individuals and, therefore, are the essential first step in improving these conditions and consequently meeting the requirements of the Rehabilitation Act.

The handicap data collected on employees will be used only in the production of reports such as those previously mentioned and not for any purpose that will affect them individually. The only exception to this rule is that the records may be used for selective placement purposes and selecting special populations for mailing of voluntary personnel research surveys. In addition, every precaution will be taken to ensure that the information provided by each employee is kept in the strictest confidence and is known only to the one or two individuals in the agency Personnel Office who obtain and record the information for entry into the agency's and OPM's personnel systems. You should also be aware that participation in the handicap reporting system is entirely voluntary, **with the exception of employees appointed under Schedule A, section 213.3102(t) (Mental Retardation); Schedule A, section 213.3102(u) (Severely Physically Handicapped); and Schedule B, section 213.3202(k) (Mentally Restored).** These employees will be requested to identify their handicap status and if they decline to do so, their correct handicap code will be obtained from medical documentation used to support their appointment. No other employees will be required to identify their handicap status if they feel for any reason it is not in their best interest to have this information officially recorded outside of medical records. We request only that anyone not wishing to have this information entered in the agency's and OPM's personnel systems indicate this to their Personnel Office, rather than intentionally miscoding themselves, since false responses will seriously damage the statistical value of the reporting system.

[In those instances where the employee is or was hired under Schedule A, section 213.3102(t) (Mental Retardation), the Personnel Director or his/her designee (a Vocational Rehabilitation Counselor may also be helpful) **will assist the individual in completing this form and ensure that the employee fully understands the meaning of the form and the options available to him/her, as noted above.**]

Employees will be given every opportunity to ensure that the handicap code carried in their agency's and OPM's personnel systems is accurate and is kept current. They may exercise this opportunity by asking their Personnel Officer to see a printout of the code and definition from their record, by notifying Personnel any time their handicap status changes, and by initiating action in either of these cases to have the necessary changes made to their records. The code carried on employees in their agency's system will be identical to that carried in OPM's system, and any change to the agency records will result in the same change being made to OPM's records.

Your cooperation and assistance in establishing and maintaining an accurate and up-to-date handicap report system is sincerely appreciated.

PRIVACY ACT STATEMENT

Collection of the requested information is authorized by the Rehabilitation Act of 1973 (P.L. 93-112). The information you furnish will be used for the purpose of producing statistical reports to show agency progress in hiring, placement, and advancement of handicapped individuals and to locate individuals for voluntary participation in surveys. The reports will be used to inform agency top management, the Office of Personnel Management (OPM), the Congress, and the public of the status of programs for employment of the handicapped. All such reports will be in the form of aggregate totals and will not identify you in any way as an individual.

Solicitation of your Social Security Number (SSN) is authorized by Executive Order 9397, which requires agencies to use the SSN as the means for identifying individuals in personnel information systems. Your SSN will only be used to ensure that your correct handicap code is recorded along with the other employee information that your agency and OPM maintain on you. Furnishing your SSN or any other of the requested data for this collection effort is voluntary and failure to do so will have no effect on you. It should be noted, however, that where individuals decline to furnish their SSN, the SSN will be obtained from other records in order to ensure accurate and complete data.

Employees appointed under Schedule A, section 213.3102(t) (Mental Retardation), Schedule A, section 213.3102(u) (Severely Physically Handicapped), or Schedule B, section 213.3202(k) (Mentally Restored) are requested to furnish an accurate handicap code, but failure to do so will have no effect on them. Where employees hired under one of these appointments fail to disclose their handicap, however, the appropriate code will be determined from the employee's existing records or medical documentation submitted to justify the appointment.

APPENDIX G

TRACKING METHODOLOGY: DATA FIELDS

The tracking system should be as comprehensive as possible. Include as many of the following data fields as possible:

- Student name
- Age
- Grade
- Gender
- Ethnicity
- Course names (and/or activity/session names)
- Pre- and post-test scores or other form of baseline data and measured progress
- Advancement to the next grade level
- Number of years in program

Tracking systems may vary depending upon the individual program's content, structure, emphasis, and age groups served.

APPENDIX H

GLOSSARY OF ACRONYMS AND DEFINITIONS

CO-I	Co-Investigator
FACS	Financial and Contractual Status Report
HBCU's	Historically Black Colleges and Universities
HSI's	Hispanic Serving Institutions
JPL	Jet Propulsion Laboratory
MI	Minority Institutions (refers collectively to HSI's, TCU's, and other minority serving institutions of higher education)
MSET	Mathematics, Science, Engineering and Technology
MURED	Minority University Research and Education Division
MUREP	Minority University Research and Education Programs
NRA	NASA Research Announcement
OEOP	Office of Equal Opportunity Programs
OMU's	Other Minority Universities (includes HSI's, TCU's, and other minority serving institutions of higher education)
PI	Principal Investigator
SYS-EYFUS	The SYS-EYFUS is an electronic system (SYS -) used by NASA Headquarters to manage research solicitation activity, plan for the receipt of research proposals, track the receipt and peer evaluation of these proposals, and manage funded research (grants, cooperative agreements, etc.) sponsored by NASA's Office of Equal Opportunity (Code E), Office of Earth Science (Code Y), Office of Human Resources & Education Division (Code F), Office of Biological and Physical Research (Code U), Office of Space Science (Code S), Office of Aerospace Technology (Code R) and the Office of Space Flight (Code M). SYS-EYFUS also supports the funding and administration of awards pursuant to selection of these research opportunities.
TCU's	Tribal Colleges and Universities

Black, not of Hispanic origin: A person having origins in any of the black racial groups of Africa.

American Indian or Alaskan Native: A person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

Hispanic: A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish Culture.

Pacific Islander: A person having origins in any of the original peoples of Hawaii; the US Pacific Territories of Guam, American Samoa, and the North American Marianas; the U.W. Trust Territory of Palau; the islands of Micronesia and Melanesia; and the Philippines.

White, not of Hispanic origin: A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

Targeted Disabled: A person having a physical or mental impairment that substantially limits one or more major life activities; who has a record of such impairment or who is regarded as having such impairment. (See the web site at the Department of Education for legal definitions: <http://www.ideapractices.org/regs/definitions.htm>).

Underserved minority students: Refers to students from racial and ethnic groups whose enrollment in MSET education or participation in MSET professions are much smaller than that group's representation in the general population. African Americans, Hispanics, Native Americans and Pacific Islanders currently fit this definition. For the purposes of this solicitation, students should attend public, hard to staff elementary, middle, and high schools, where approximately fifty percent or more of the students receive free lunches.

APPENDIX I -- WEB ADDRESSES

1. NASA Strategic Plan World Wide Web address: <http://hq.nasa.gov/office/codez/new/>
2. Minority University Research and Education Division World Wide Web address: <http://mured.nasaprs.com>
3. NASA Center/JPL Center of Excellence and Mission Areas

Center	Designated Center of Excellence Area of Responsibility	Mission Area
Ames Research Center http://www.arc.nasa.gov/	Information Technology	Aviation Operations Systems and Astrobiology
Dryden Flight Research Center http://www.dfrc.nasa.gov	Atmospheric Flight Operations	Flight Research
Goddard Space Flight Center http://www.gsfc.nasa.gov/	Scientific Research	Earth Science and Physics and Astronomy
Jet Propulsion Laboratory http://www.jpl.nasa.gov/	Deep Space Systems	Planetary Science and Exploration
Johnson Space Center http://www.jsc.nasa.gov/	Human Operations in Space	Human Exploration and Astro Materials
Kennedy Space Center http://www.ksc.nasa.gov/	Launch and Payload Processing Systems	Space Launch
Langley Research Center http://www.larc.nasa.gov/	Structure and Materials	Airframe Systems and Atmospheric Science
Glenn Research Center http://www.grc.nasa.gov/	Turbomachinery	Aeropropulsion
Marshall Space Flight Center http://www.msfc.nasa.gov/	Space Propulsion	Transportation Systems Development and Microgravity
Stennis Space Center http://www.ssc.nasa.gov/	Rocket Propulsion Test	Propulsion Test